ABSTRACT

[0068] The invention disclosed in this application uses a method of modulation named Integer Cycle Frequency Hopping (ICFH) wherein a carrier signal, comprised of a continuum of sine waves is generated on a single frequency. A data bit representing either a "1" or a "0", depending upon the logic polarity chosen by the builder is imposed upon the carrier signal by modifying the carrier signal at precisely the zero crossing point or the zero degree angle. The method of imposing the data is to cause either a lengthening or shortening of the proceeding 360 degrees of phase angle, thus effectively either raising or lowering the frequency of the carrier signal for just the one, or a succession of cycles at hand. Upon completion of the 360-degree cycle(s), the carrier will return to the original frequency. The main carrier frequency is only modulated beginning at the zero degree phase angle and ending at the 360-degree phase angle. In this modulation scheme as few as one sine wave cycle can be used to represent one data bit. The spectral output of a transmitting device using this modulation scheme will be defined by the difference in frequency between the main carrier signal and the modulating frequency. In the resulting signal a modulated segment of the main carrier frequency can represent either a binary "1" or a binary "0".